WHAT IS CLAIMED IS:

1. For use in a channel decoder, a block decision feedback equalizer for channel equalization comprising:

a forward filter receiving and concurrently processing blocks containing a predetermined number of input samples;

a feedback filter receiving and concurrently processing blocks containing the predetermined number of demapped equalized output samples; and

a signal adder combining filtered input samples for a current block from the forward filter and filtered output samples for the current block from the feedback filter to produce equalized output samples for the current block.

2. The block decision feedback equalizer as set forth in Claim 1 wherein the signal adder receives intra-block time varying output correction coefficients for both the forward and feedback filters for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

3. The block decision feedback equalizer as set forth in Claim 1 wherein the signal adder receives only intra-block time varying output correction coefficients for the forward filter and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

4. The block decision feedback equalizer as set forth in Claim 3 wherein the signal adder receives the intra-block time varying output correction coefficients for the forward filter only when an error measurement for the current block exceeds a threshold.

5. The block decision feedback equalizer as set forth in Claim 3 wherein filter coefficients utilized to produce the intra-block time varying output correction coefficients are computed at a rate lower than a rate at which input samples are received.

6. The block decision feedback equalizer as set forth in Claim 1 wherein the signal adder receives neither intra-block time varying output correction coefficients for the forward filter nor intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

7. The block decision feedback equalizer as set forth in Claim 1 further comprising:

a forward error computation unit receiving the input samples to compute an inverse channel estimate and an error vector and producing an output correction vector for the forward filter; and

a feedback error computation unit receiving the demapped equalized output samples to compute the inverse channel estimate and the error vector and producing an output correction vector for the feedback filter.

8. A receiver comprising:

an input for receiving an input signal;

a channel decoder for decoding the input signals; and

a block decision feedback equalizer within the channel decoder for channel equalization comprising:

a forward filter receiving and concurrently processing blocks containing a predetermined number of input samples from the input signal;

a feedback filter receiving and concurrently processing blocks containing the predetermined number of demapped equalized output samples; and

a signal adder combining filtered input samples for a current block from the forward filter and filtered output samples for the current block from the feedback filter to produce equalized output samples for the current block.

9. The receiver as set forth in Claim 8 wherein the signal adder receives intra-block time varying output correction coefficients for both the forward and feedback filters for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

10. The receiver as set forth in Claim 8 wherein the signal adder receives only intra-block time varying output correction coefficients for the forward filter and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

11. The receiver as set forth in Claim 10 wherein the signal adder receives the intra-block time varying output correction coefficients for the forward filter only when an error measurement for the current block exceeds a threshold.

12. The receiver as set forth in Claim 10 wherein filter coefficients utilized to produce the intra-block time varying output correction coefficients are computed for the forward filter at a rate lower than a rate at which input samples are received.

13. The receiver as set forth in Claim 8 wherein the signal adder receives neither intra-block time varying output correction coefficients for the forward filter nor intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

14. The receiver as set forth in Claim 8 wherein the block decision feedback equalizer further comprises:

a forward error computation unit receiving the input samples to compute an inverse channel estimate and an error vector and producing an output correction vector for the forward filter; and

a feedback error computation unit receiving the demapped equalized output samples to compute the inverse channel estimate and the error vector and producing an output correction vector for the feedback filter.

15. For use in a channel decoder, a method of block channel equalization comprising:

receiving and concurrently processing blocks containing a predetermined number of input samples within a forward filter;

receiving and concurrently processing blocks containing the predetermined number of demapped equalized output samples within a feedback filter; and

combining filtered input samples for a current block from the forward filter and filtered output samples for the current block from the feedback filter within a signal adder to produce equalized output samples for the current block.

16. The method as set forth in Claim 15 further comprising:

receiving intra-block time varying output correction coefficients for both the forward and feedback filters within the signal adder for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

17. The method as set forth in Claim 15 further comprising:

receiving only intra-block time varying output correction coefficients for the forward filter within the signal adder and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

18. The method as set forth in Claim 17 wherein the step of receiving only intra-block time varying output correction coefficients for the forward filter within the signal adder and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples further comprises:

receiving the intra-block time varying output correction coefficients for the forward filter only when an error measurement for the current block exceeds a threshold.

19. The method as set forth in Claim 17 wherein the step of receiving only intra-block time varying output correction coefficients for the forward filter within the signal adder and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples further comprises:

computing filter coefficients utilized to produce the intra-block time varying output correction coefficients for the forward filter at a rate lower than a rate at which the filtered input samples are received.

20. The method as set forth in Claim 15 further comprising:

receiving neither intra-block time varying output correction coefficients for the forward filter nor intra-block time varying output correction coefficients for the feedback filter within the signal adder for addition to the filtered input samples and the filtered output samples in producing the equalized samples.